ALTERNATIVES

Testimony of Susan V. Lee

INTRODUCTION

This section considers potential alternatives to the construction and operation of the proposed East Altamont Energy Center (EAEC). The purpose of this alternatives analysis is to comply with State and Federal environmental laws by providing an analysis of a reasonable range of feasible alternative sites which could substantially reduce or avoid any potentially significant adverse impacts of the proposed project (Cal. Code Regs., tit. 14, §15126.6; Cal. Code Regs., tit. 20, §1765). This section identifies potentially significant impacts of the proposed project and analyzes different technologies and alternative sites that may reduce or avoid significant impacts. Staff has also analyzed the impacts that may be created by locating the project at alternative sites.

The California Energy Commission (Energy Commission) does not have the authority to approve an alternative or require Calpine to move the proposed project to another location, even if it identifies an alternative site that meets the project objectives and avoids or substantially lessens on one or more of the significant effects of the project. One of the applicant's primary objectives for the project is to be online by 2005, and the applicant has a contract with the California Department of Water Resources (DWR) to provide electricity. In order to meet that contract, the applicant must receive Energy Commission certification by November 30, 2002 or 90 days thereafter. Implementation of an alternative site would require that the applicant submit a new AFC, including revised engineering and environmental analysis; this more rigorous AFC-level analysis of any of the alternative sites could reveal environmental impacts, non-conformity with laws, ordinances, regulations, and standards; or potential mitigation requirements that were not identified during the more general alternatives analysis presented herein. None of the alternatives would allow the applicant to meet the DWR contract requirements or the objective of being online by 2005. The additional time required to complete site engineering and application preparation would be about one year for permitting and two years for construction. Staff believes this is an important objective that supports development of California's electricity supply.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS (LORS)

Calpine proposes to interconnect the proposed EAEC to the Tracy substation, which is under the jurisdiction of the Western Area Power Administration (Western). Since Western is a federal agency, the EAEC project is subject to review under the National Environmental Policy Act (NEPA) in addition to the California Environmental Quality Act (CEQA). Western is the Lead Agency under NEPA and the California Energy Commission is the Lead Agency under CEQA. Western and the Energy Commission are undertaking a combined NEPA/CEQA analysis.

CALIFORNIA ENVIRONMENTAL QUALITY ACT CRITERIA

The "Guidelines for Implementation of the California Environmental Quality Act," Title 14, California Code of Regulation, Section15126.6(a), provides direction by requiring an evaluation of the comparative merits of "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." In addition, the analysis must address the "no project" alternative (Cal. Code Regs., tit. 14, §15126.6(e)).

The range of alternatives is governed by the "rule of reason" which requires consideration only of those alternatives necessary to permit informed decision-making and public participation. CEQA states that an environmental document does not have to consider an alternative of which the effect cannot be reasonably ascertained and of which the implementation is remote and speculative (Cal. Code Regs., tit. 14, §15125(d)(5)).

NATIONAL ENVIRONMENTAL POLICY ACT CRITERIA

NEPA requires that the decision-makers and the public be fully informed of the impacts associated with the proposed project. The intent is to make good decisions based on understanding environmental consequences, and to take actions to protect, restore, and enhance the environment. Western's Environmental Assessment (EA) is intended to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement.

Alternatives identified must be consistent with Western's purpose and need for the action under consideration, which include the applicant's objectives. The applicant's objectives are described below in the Project Objectives section. Western's purpose and need is described in the NEPA Purpose and Need section. For purposes of NEPA analysis, Western has determined that alternative power plant sites are not consistent with the purpose and need or the applicant's objectives. Because alternative sites are not consistent with Western's purpose and need to provide open access at the place requested, there is no need for Western to analyze alternative sites.

PROJECT DESCRIPTION

The proposed EAEC would be a nominal 1,100-megawatt (MW) natural-gas-fired generating facility located on approximately 40 acres within a 174-acre parcel. The site is in unincorporated Alameda County, one-mile west of the San Joaquin County line and one-mile southeast of the Contra Costa County line. The land is currently zoned for agricultural uses (EAEC 2001a, Section 2). The EAEC is designed as a 820 MW combined cycle power plant, with an additional 267 MW of peaking capacity provided by oversized duct burners and an oversized steam turbine generator.

The proposed power plant would require a 230-kilovolt (kV) switchyard and two new approximately 0.5 mile 230-kV transmission lines. The switchyard would be owned by Western and would function as an extension of the existing Tracy Substation, which is located immediately west of the proposed project site. The two new double-circuit

230-kV transmission lines would connect the new switchyard to an existing 230-kV double-circuit transmission line that will be sectionalized to provide interconnections with Western's Tracy Substation and the Westley Substation. New electrical equipment would also be installed within the existing boundaries of the Tracy and Westley Substations. Natural gas for the facility would be delivered via a new approximately 1.8-mile 20-inch pipeline that would connect to Pacific Gas and Electric (PG&E)'s existing natural gas pipeline line located at the intersection of Bruns Road and Kelso Road. A ½-acre gas metering station would be required at the interconnection point. Byron Bethany Irrigation District (BBID) would supply approximately 4,600 acre-feet of raw water for cooling and process make-up water via a 2.1-mile pipeline (EAEC 2001a, Section 2). A recycled water pipeline would run along the south side of Byron Bethany Road and would enter the 174-acre parcel at the northeast corner.

APPLICANT'S SITE SELECTION CRITERIA

The following site selection criteria were used by the applicant for choosing the proposed site; however, staff does not necessarily concur that all the criteria must be met when analyzing alternative sites. Therefore, the critical project objectives, as determined by staff, are listed in the following section. According to the AFC, the applicant chose the proposed site for the following reasons (EAEC 2001a).

The site is close to an existing transmission substation with access to PG&E, Western, Modesto Irrigation District (MID), Turlock Irrigation District (TID), and through PG&E, the Independent System Operator (ISO) electrical markets;

Sufficient land is available for the 40-acre site plus a construction laydown area;

The site is served by a water purveyor with adequate water supply to support the project;

The site is close to a PG&E natural gas pipeline;

The site is located in a rural area with few residences nearby;

The project would be consistent with other neighboring utility uses, such as the transmission substation; and

Even though the parcel is zoned agricultural, a generating facility could be allowed through a conditional use permit.

SCOPE AND METHODOLOGY OF THE ALTERNATIVES ANALYSIS

The purpose of staff's alternatives analysis is to provide a reasonable range of feasible alternatives that could substantially reduce or avoid any potentially significant adverse impacts of the proposed project. To accomplish this, staff must determine the appropriate scope of analysis. Consequently, it is necessary to identify and determine the potentially significant impacts of the proposed project and then focus on alternatives that are capable of reducing or avoiding significant impacts.

To prepare this alternatives analysis, staff used the following methodology:

1. Identify the basic objectives of the project, provide an overview of the project, and describe its potentially significant adverse impacts.
2. Identify and evaluate technology alternatives to the project such as increased energy efficiency (or demand side management) and the construction of alternative technologies (e.g. wind, solar, or geothermal).
3. Identify and evaluate alternative locations or sites.
4. Evaluate the impacts of not constructing the project, known as the "no project" alternative under CEQA or the "no action" alternative under NEPA.

For purposes of its EA, Western reviewed the results of the Energy Commission alternatives analysis and determined which alternatives were consistent with Western's purpose and need section. All alternative sites or technologies were found not to be consistent with Western's purposes and need were dismissed from the full analysis of the EA. These alternatives nonetheless remain as part of the Energy Commission's CEQA analysis. (Note that the entire Final Staff Assessment will serve as Western's EA.)

PROJECT OBJECTIVES

Based on analysis of the EAEC AFC, the Energy Commission staff has determined the project's objectives as:

Construction and operation of a merchant power plant with access to multiple markets;

To be located near a substation and key infrastructure for natural gas, water supply and transmission lines;

Generation of approximately 1,100 MW of electricity; and

To be online by 2005.

NEPA PURPOSE AND NEED STATEMENT

NEED FOR WESTERN ACTION

Calpine has applied to interconnect with Western's transmission system at the Tracy Substation. Western must respond to Calpine's request for an interconnection with its transmission system.

PURPOSES FOR WESTERN ACTION

In responding to the Need for Agency Action, Western must abide by the following purposes.

1. Providing transmission service per Open Access Transmission Policy

Federal Energy Regulatory Commission (FERC) Order, Numbers 888 and 888-A, requires all public utilities owning or controlling interstate transmission facilities to offer non-discriminatory open access transmission services. That is, a utility must offer to provide third parties, to the maximum extent possible, with transmission service that the utility could provide itself on its system. FERC was addressing the need to encourage lower electricity rates by facilitating the development of competitive wholesale electric power markets through the prevention of unduly discriminatory practices in the provision of transmission services (FERC 1996). Although Western is not specifically subject to the requirements of the FERC Final Order Nos. 888 and 888-A, the Department of Energy (DOE) has issued a Power Marketing Administration Open Access Transmission Policy that does apply to Western that supports the intent of the FERC's Notice of Proposed Rulemaking for Open Access Transmission. To comply with FERC Orders 888 and 888-A, Western published in the Federal Register on January 6, 1998 its Notice of Final Open Access Transmission Service Tariff (Tariff). Under this tariff, Western offers transmission service for the use of available transmission capacity in excess of the capacity Western requires for the delivery of long-term firm capacity and energy to current contractual electric service customers of the Federal government. Under the Tariff, Western will provide firm and non-firm point-to-point transmission service and network integration transmission service to the extent that Western has available transmission capability.

2. Addressing an Interconnection Application per Western's General Guidelines for Interconnection

Western's General Guidelines for Interconnection provide a process for addressing applications for interconnection. The process dictates that Western respond to an application as presented by an applicant. Section 211 of the Federal Power Act requires transmission services be provided upon application if transmission capacity is available.

3. Protecting Transmission System Reliability and Service to Existing Customers

Western's purpose is to ensure that existing reliability and service is not degraded. Western's General Guidelines for Interconnection involve transmission and system studies to ensure that system reliability and service to existing customers is not adversely affected.

4. Consideration of the Applicant's Objectives

Since the statement of purpose and need affects the extent to which alternatives are considered reasonable, it is important to understand both the agency's purpose and need and that of the applicant.

WESTERN'S DECISION

Western's decision is limited to deciding if the specific power plant proposed by the applicant can be interconnected with Western's transmission system. Western's decision will take into account:

Potential environmental effects of the proposed power plant;

Potential mitigation measures for the power plant and associated infrastructure; and

Interconnection proposal consistent with Western's purposes, including the applicant's objectives.

For purposes of the NEPA process, Western will determine the significance of impacts in a separate determination issued after this EA. If Western determines there are no significant impacts, it will issue a Finding of No Significant Impacts (FONSI). A preliminary version of the FONSI will be made available for public review for at least 30 days. Publishing a final FONSI would complete the assessment portion of the federal environmental process. If Western determines that there are potential significant impacts, it will publish a Notice of Intent to prepare an Environmental Impact Statement in the Federal Register and distribute copies to the project's mailing list.

Western's conclusions about significance may vary from the conclusions reached by Energy Commission Staff and the Energy Commission. Western will consider the FSA findings and Energy Commission determinations, but may apply different weightings to the Commission Staff's significance criteria or may consider different criteria.

POTENTIAL SIGNIFICANT ENVIRONMENTAL IMPACTS

In this FSA, staff has identified the potential for significant environmental effects of the proposed project in the following technical areas (summarized below): air quality, biology, land use, visual resources, hazardous materials, and soil and water resources. With mitigation, impacts in all of these issue areas except visual resources have been found to be less than significant. However, staff has determined that there would be unmitigable significant impacts to visual resources from the proposed project.

Issue area with significant impacts:

Visual Resources

Although the proposed power plant facility would be located near transmission lines and a substation, staff concludes that the facility would be inconsistent with the existing rural character of the general area. Furthermore, the proposed facility would be visible from recreational areas and would affect panoramic scenic views.

The applicant's proposed visual resources mitigation measures and screening plan, and staff's proposed mitigation measures and conditions of certification had the potential to mitigate the visual impacts of the proposed project. However, biology staff of the Energy Commission, CDFG, and USFWS were concerned about potential biological impacts of the proposed landscaping. Although a landscaping plan has been developed that was deemed to be adequate by the CDFG and the USFWS, the plan does not adequately reduce the visual impacts of the proposed project. Staff therefore concludes that the project would result in unmitigable significant impacts to visual resources.

Staff concluded that the proposed project structures would be inconsistent or partially inconsistent with seven of Alameda County's LORS, two of which would constitute an adverse but not significant impact, another two of which could be mitigated to a level of less than significant, and two more that would constitute a significant, unmitigable impact. The Alameda County Planning Department, however, has found that the project would be consistent with all of the county's applicable LORS. Consistent with California Code of Regulations, title 20, section 1714.5(b), staff gives due deference to Alameda County's determination that the project complies with the visual resources LORS under its jurisdiction. Therefore, staff's determination is that the project is consistent with all applicable LORS.

Issue areas found to have less than significant impacts if recommended mitigation is adopted:

Air Quality

The EAEC as proposed has the potential to create significant impacts to local and regional air quality. Staff found that the project's emissions of oxides of nitrogen (NOx) and volatile organic compounds (VOC) have the potential to cause significant impacts relative to the state and federal 1-hour ozone air quality standards. Further, the project's emissions have the potential to cause significant impacts relative to the state 24-hour PM10 (particulate matter less than 10 microns in diameter) air quality standard. The project would also contribute to existing violations of the recently promulgated federal 8-hour ozone and 24-hour PM2.5 standards. However, the significance of these contributions is uncertain because the monitoring and attainment designation has not been completed.

The proposed location for the EAEC is in Alameda County and within the jurisdictional boundaries of the Bay Area Air Quality Management District (BAAQMD), but very near the border with San Joaquin County and the San Joaquin Valley Air Pollution Control District (SJVAPCD). Because the proposed site is east of the Altamont pass, the project's emissions would directly affect air quality in the SJVAPCD.

Under BAAQMD rules, the project applicant must offset air quality emissions, and can accomplish this by purchasing emission reduction credits (ERCs) anywhere within the BAAQMD territory. The applicant has satisfied BAAQMD offset requirements by purchasing Bay Area Emission Reduction Credits (ERCs) far to the west of the project site and of the Altamont Pass, where the offsets would result in only a small reduction of pollution transport into the area impacted by the project. Staff has determined that these ERCs are inadequate to fully mitigate the location and magnitude of local air quality impacts that would be caused by the project.

The applicant put forth a proposal designed to provide air quality benefits to offset the residual air quality impacts identified by staff. Staff evaluated this proposal and found that the proposal would be insufficient, both in terms of the tons of air pollution reduced, and in the specificity and enforceability of the measures proposed. Staff has identified two ways in which the applicant can fully mitigate the project's local air quality impacts. Staff's preferred method would be for the applicant to implement specific local air quality improvement programs detailed in staff's **Air Quality** analysis. Staff incorporated some of the elements of the applicant's proposal into an air quality improvement program that

would fully mitigate the project's local air quality impacts. Alternatively, the applicant could purchase ERCs from the SJVAPCD sufficient to offset staff's identified residual impacts. Staff would prefer that all feasible actual emission reduction scenarios be explored first, and that when those scenarios are exhausted or are not deemed feasible, then any remaining emissions shortfall be met through the acquisition of ERCs from the SJVAPCD offset bank.

The proposed project currently does not comply with the District's Best Available Control Technology (BACT) requirements for NOx and CO emissions, and does not meet U.S. Environmental Protection Agency and California Air Resources Board guidelines for NH3 emissions. However, the District's conditions, which are contained in staff's proposed conditions of certification, will compel the project meet the District's BACT requirements. With full implementation of staff's proposed conditions of certification, the project will meet this and all other applicable LORS.

Biological Resources

The project area is part of a critical habitat pinch-point for the northern satellite population of the San Joaquin kit fox, a Federal and State listed species. Habitat mitigation that compensates for habitat loss and protects local habitats has been under review by staff in consultation with CDFG and USFWS. The applicant has proposed to mitigate for significant adverse impacts to listed species by purchasing mitigation habitat. Specifically, the applicant proposes to place a conservation easement on the Gomes Farms property, a 151-acre parcel that lies approximately one mile west of the EAEC project site. The applicant would further prepare a management plan, and establish an endowment to manage the land in perpetuity based upon a Property Analysis Report (PAR). The PAR will be conducted through the Center for Natural Lands Management (CNLM). The mitigation land would be managed by a qualified third party natural land management organization approved by Energy Commission staff, USFWS, CDFG, and Western.

While earlier versions of landscaping plans were found to create unacceptable biological impacts, the most recent landscaping plan proposed by the applicant was deemed adequate by the CDFG and USFWS. In contrast to the original landscaping plan, the applicant's final plan would minimize the use of large trees, limit the extent of landscaping within the project footprint, provide a substantial number of native plant species, and maintain a ground clearance of 3 feet for all vegetation. Staff concurs with the position of CDFG and USFWS that the area within which the EAEC is located in a critical habitat pinch-point for the San Joaquin kit fox. Further degradation in habitat quality and quantity (including connectivity) from additional landscaping, would cause significant adverse impacts to the kit fox population. Though staff would prefer no landscaping around the project from the perspective of protecting the kit fox from predation and habitat degradation, the April 3, 2002 landscaping plan, combined with the applicant's proposed management of the landscaping, would minimize impacts. Staff has proposed conditions of certification that would mitigate all biological impacts to less than significant, and has further proposed conditions that, when fully implemented, would allow the project to conform to all biological resource-related LORS.

Land Use

The project site is located on land that is zoned as large parcel agricultural. If not for the Energy Commission's "in-lieu of" status, the project would be required to obtain a conditional use permit from Alameda County, which in turn would require that the County make certain findings. Staff has received the conditional use permit findings from Alameda County. Staff believes that the project's consistency with: (1) the County's land use designation and zoning for the site, and (2) the current development pattern for the area established by the East County Area Plan (ECAP), as amended by Measure D, is unclear. Although staff does not completely agree with the conclusions of the County, such conclusions are plausible and staff therefore defers to the County's interpretation of their own guidelines, standards, policies and conclusions that the EAEC is a consistent and allowed use.

The project's construction would result in the conversion of 40 acres from an agricultural use to a non-agricultural use and would involve the loss of land considered "Prime Farmland" by the California Department of Conservation. Staff considers the loss and conversion of agricultural land to be inconsistent with ECAP policies and Association of Bay Area Governments (ABAG)'s Preservation of Agricultural Resources policies, and potentially a significant impact under CEQA. In order to help offset the project-related impacts from the loss of agricultural land, Calpine, in coordination with Alameda County, has proposed mitigation including the contribution of funds to Alameda County for a 1:1 purchase of prime agricultural land for permanent farming use and/or easement purchases. Staff supports the County's successful effort to reach a mitigation agreement with the applicant regarding the conversion and loss of productive agricultural land, which is a potentially significant impact. After reviewing the final agreement, staff concludes that the payment of the $1 million fee agreed upon in the Farmlands Mitigation Agreement, in conjunction with **Condition of Certification LAND-7**, will mitigate the impacts of this project to a less than significant level.

Hazardous Materials

Anhydrous ammonia and natural gas are the only hazardous materials proposed for use at the power plant that may pose a risk of off-site impacts. Large amounts of anhydrous ammonia would be used in controlling the emission of oxides of nitrogen (NO_x) from the combustion of natural gas in the facility. The applicant has proposed state-of-the-art engineering controls for the containment of anhydrous ammonia, and staff has found that these controls, combined with the applicant's proposed administrative controls, will prevent off-site consequences should there be an accidental spill.

Staff also evaluated the risks associated with the transportation of anhydrous ammonia to the site. The anhydrous ammonia would be transported to the facility via U.S. Department of Transportation-certified tanker truck. While the risk associated with transportation of anhydrous ammonia is very low and well within accepted norms, as discussed in the **Hazardous Materials Management** section of this FSA, it is readily feasible to use aqueous ammonia. However, staff found that aqueous ammonia provided little if any risk reduction to in-route populations. Therefore in the absence of significant risk from use of anhydrous ammonia at this proposed facility, staff found no basis for requiring use of aqueous ammonia based on transport risks.

Staff's evaluation of the proposed project (with staff's proposed mitigation measures) indicates that hazardous materials use will not pose a significant risk of impacts on the public. Furthermore, with adoption of staff's proposed conditions of certification, the proposed project will comply with all applicable LORS.

Water and Soil Resources

The applicant has proposed to supply the project's non-potable water needs with fresh inland (raw) water. The applicant also indicated in their AFC that, as the community of Mountain House is developed and recycled water becomes available, the Byron Bethany Irrigation District (BBID) would be able to serve the facility in part with recycled water, offsetting raw water use. However, the applicant as yet has not made any firm commitments for this recycled water. While staff has established the willingness of Mountain House to commit all recycled water it produces for use at EAEC, the applicant has conditioned its willingness to implement use of recycled water on whether it becomes available under terms and conditions solely acceptable to itself. For the purposes of the Energy Commission's analysis of the AFC, staff's analysis considered the effects of both cases: assuming the plant would rely solely on raw water, and assuming the plant would fully utilize recycled water as it becomes available from Mountain House.

Staff has determined that EAEC's proposed use of high quality fresh inland water for cooling, process water, and other non-potable uses, when recycled water is available, would constitute a significant impact. Absent the maximum implementation of recycled water use by EAEC, staff believes the sole use of fresh water by the project for non-potable needs could diminish local water supply, potentially depriving BBID's other customers of fresh water or resulting in inadequate supplies to the EAEC project itself. Staff believes that potentially significant adverse cumulative impacts to other fresh water users (i.e., residential and agriculture) could result if EAEC does not maximize its use of recycled water for cooling and other non-potable requirements. The Mountain House Community Service District has committed to supply all of its recycled water for use by EAEC.

The use of reclaimed water for cooling is well proven and could serve 100 percent of the project's non-potable water demands prior to 2020. Several sources of recycled water suitable for meeting EAEC's non-potable requirements are being developed in the area and will be available by as early as 2003. Staff also has concluded that recycling of the storm water to the cooling tower basin is a reasonable and economic means to conserve water. Staff's proposed conditions of certification require that the project utilize recycled water for all of its non-potable operational requirements as soon as possible, but no later than January 1, 2020.

With full implementation of staff's proposed conditions of certification, the proposed EAEC project will comply with applicable LORS, be consistent with established state policy regarding the conservation of fresh water supplies, and avoid significant impacts to other fresh water users.

Noise

The proposed project could result in a substantial permanent increase in ambient noise levels at sensitive receptors, which may be considered a significant impact. The local noise environments in rural areas may be very quiet, with few discernable ambient noise sources. A power plant will introduce a new noise source with a distinctive acoustical character, quite different from typical ambient noise. In rural areas, the increases in ambient noise levels at sensitive receptors due to power plant operations may be relatively large, depending upon plant design, distance to the sensitive receptors, and whether other structures, topography, or noise sources affect power plant sound transmission. In the case of the proposed project, achieving power plant noise levels that ensure there will be no substantial increase in ambient noise levels would be problematic because homes on nearby agricultural parcels, the Livermore Yacht Club, and one school are located within about 1.5 miles from the plant site, and ambient noise levels are relatively low (well below LORS standards). If constructed as the applicant has proposed, the project's noise level at the nearest sensitive receptors would represent an increase of up to 13 dBA over the nighttime ambient background noise levels. Such increases in background noise levels would profoundly alter the noise regime in the project vicinity, and would cause a significant impact. To mitigate this impact, staff is proposing a condition of certification that would require the applicant to reduce the plant's noise output measured at the nearest residence, to a level that would only slightly increase ambient nighttime noise levels. If this and all other recommended Conditions of Certification are implemented, impacts will be less than significant and the project, if built, would comply with all applicable LORS.

SITE ALTERNATIVES

Eight alternative sites were identified during the initial screening of site alternatives. The applicant presented six of these as part of its alternatives analysis (Alternative Sites 1 through 6; EAEC 2001a, Section 9). Three of the applicant's sites (Alternative Sites 1, 3, and 4) were eliminated from further analysis during the initial screening phase (see explanation in the "Alternatives Eliminated" section, below). The applicant's Site 6 (the Tesla Site) was evaluated in the PSA, but has since been eliminated because a similar project (the Tesla Power Plant Project) is proposed at that site and Energy Commission review is currently underway. Siting an alternative at that location would not maintain a reasonable range of alternatives. Staff also identified two additional potential alternative sites, the I-580 Alternative Site 7 and the Lodi Site, during the initial screening. Alternative Site 7 was eliminated, but the Lodi Alternative Site was retained for detailed analysis. With the elimination of the Tesla Site, and in an effort to maintain a reasonable range of alternatives, staff identified an additional alternative site, the Panoche Site, which is evaluated in this section.

SCREENING CRITERIA USED TO SELECT ALTERNATIVE SITES

The following criteria were used to identify potential alternative sites. Each site was evaluated for its ability to:

1. Avoid or substantially lessen one or more of the potential significant effects of the project as described above;
2. Satisfy the following criteria:
    a. Location. In order to meet reliability objectives, the site should be located near major Central Valley transmission lines.
    b. Site suitability. Sufficient land is needed to construct and operate a generating facility of this size. The proposed power plant would be located on 40 acres of land, however only 25 acres is required for a generating facility using the proposed technology (EAEC 2001a, Section 9). Therefore, staff used 25 acres as the minimum lot size needed to accommodate the facility.
    c. Availability of infrastructure. The site should be within a reasonable distance of natural gas and water supply.
3. Not create significant impacts of its own
4. Be available for purchase
5. Be sufficiently far from moderate or high density residential areas or to sensitive receptors (such as schools and hospitals) or to recreation areas.
6. Allow the project to be on-line on or before 2005.

Based on these screening criteria, four alternative sites were selected for further evaluation in this FSA: Mountain House Road Site (applicant's Site 2), Bruns Road Site (applicant's Site 5), Lodi Site (identified by staff), and Panoche Site (identified by staff). Please see **ALTERNATIVES Figures 1 through 3** for maps of these four sites.

The alternative sites were evaluated and the following issue areas were initially chosen to be evaluated because these are issue areas where impacts can be most serious for power plants: visual resources, biology, hazardous materials, land use, water and soil resources, cultural, transmission system engineering, air quality, and noise.

MOUNTAIN HOUSE ROAD SITE

The Mountain House Road Site (applicant's alternative Site 2) is located south of the proposed project site and is situated between the California Aqueduct and the Delta-Mendota Canal, immediately west of Mountain House Road. The parcel is in Alameda County and is zoned Agricultural, but is not designated as "Prime Farmland." The site consists of approximately 46 acres of flat land, located within a small valley at the base of the Coast Range foothills. The site is currently used for grazing.

A PG&E 230-kV transmission line is located approximately one quarter-mile east of the site. In addition, PG&E's 500-kV transmission lines cross the eastern side of the site. Both the 230-kV and 500-kV transmission lines feed the Tesla Substation to the south. The 230-kV line also feeds the Tracy Substation to the north. This site is not located in the BBID service area, so the water supply would be different than that of the proposed project, requiring contracts for water from the State Water Project (SWP). The natural gas pipeline would be less than 0.5 miles long and would pass under the Delta-Mendota Canal to connect to an existing PG&E natural gas transmission pipeline.

The Mountain House Site is within approximately two miles of a small community, with the nearest residence being approximately 2,000 feet to the east (EAEC 2001a, Section 9). The site is surrounded by low rolling hills that would block most views of the project site. Travelers on Mountain House Road would see the site only momentarily and then at viewing angles approximately 90 degrees off of the primary direction of travel (well beyond the primary cone of vision). A 500-kV transmission line crosses the project site and could present a constraint to site development. A wind farm is located immediately across from the site on the east side of Mountain House Road. A railroad right-of-way runs west to east on the southern portion of the parcel. A stream runs through the parcel; therefore, the potential for flooding would need to be evaluated.

Mountain House Site Impact Discussion

Air Quality: This site is located in the BAAQMD and in close proximity to the proposed project, so potential impacts would be similar to those of the proposed project.

Biological Resources: This site is within the Red-Legged Frog Recovery "Core" Area (EAEC 2001a). Furthermore, a stream runs through the site and wetland vegetation has been observed onsite, both of which could provide potential habitat for other sensitive biological resources. These wetland vegetation areas were observed to have heavy bird use. Impacts to sensitive habitats and special status species would likely be more significant than at the proposed location. However, visual screening (large trees) would not likely be required at this site, so the project at this location would not create the predator perching opportunities that are considered problematic at the proposed site. This site is also habitat for the San Joaquin kit fox.

Cultural Resources: To determine potential impacts of a project, a background search at the regional California Historic Information System (CHRIS) and a survey of both archaeological and historic resources would be necessary. The nearby windfarm and railroad are potential historic resources (if older than 45 years) that

could be impacted by a power plant at this site. Additional analysis is necessary to determine whether the impacts would be significant. At this time, this site does not appear to have any potential advantages over the proposed site.

Hazardous Materials: The risk associated with use and transport of anhydrous ammonia and other hazardous materials at the Mountain House Site would be similar to that of the proposed project (less than significant).

Land Use and Soils: This land is also zoned Agricultural, but the parcel is not designated as "Prime Farmland." As with the proposed site, the project at this location may not be consistent with the County's land use designation and zoning for the Mountain House Road site. Also, the current development pattern for the area established by the ECAP, as amended by Measure D, is unclear and would need to be reviewed. The ECAP specifically calls for preservation of the Mountain House area for intensive agricultural use and the retention of rangeland in large, contiguous blocks for commercially viable grazing. Mitigation, in the form of an agricultural management plan for the preservation of agricultural land off- and potentially on-site, would likely be required.

Transmission System Engineering: There is a double circuit 230-kV transmission line on the east side of Mountain House Road. This double circuit line appears to contain the two Tracy-Tesla 230-kV circuits, each rated at 334 MVA (normal and emergency). These existing circuits do not have enough capacity to handle 1,100 MW; the line would have to be rebuilt from Tracy to Tesla to accommodate a 1,100 MW generating plant. There are also two 500-kV transmission lines adjacent to the site, on the west side of Mountain House Road. These lines are likely the two Table Mountain–Tesla 500-kV lines, each with a normal rating of 2,310 MVA and an emergency rating of 3,463 MVA. Either of these 500-kV transmission lines may be able to handle a 1,100 MW generating plant depending on previously scheduled loading. In summary there may be enough transmission capacity to connect 1,100 MW at the Mountain House site to the nearest existing 500-kV transmission line. It would be costly to install a 500-kV switchyard. However, this would likely be less expensive than the required upgrade of the 230-kV Tracy-Tesla line and substation terminations. An additional significant concern is that connections to California's backbone 500 kV system by generating units can be very difficult due to concerns about system reliability. A system impact study would need to be performed to confirm both bulk transmission system reliability adequacy and economic viability.

Visual Resources: The overall visual quality of the Mountain House site is low-to-moderate, reflecting the influences of the power transmission and generation facilities on the agricultural landscape. Viewer concern is rated moderate, as travelers on Mountain House Road anticipate a predominantly agricultural setting and the prominent forms of the wind farm facilities with their industrial character. However, the addition of prominent geometric forms with significant mass that block views of the foothills would be perceived as an adverse visual change. As a result of the screening provided by the surrounding terrain, project visibility would be low. Although the site would be visible in the foreground from Mountain House Road and the number of potential viewers would be moderate (estimated average daily traffic is 1,800 [EAEC 2001a, Table 8.10-2]), the duration of view would be brief. Overall

viewer exposure would be moderate. The overall visual sensitivity of the Mountain House Site would be moderate.

The use of the Mountain House Site for a power plant would result in the introduction of linear and geometric forms of industrial character. Although the linear forms and lines of the project would be similar to that of the existing on-site 500-kV transmission line and nearby wind farms, the solid geometric mass of the structures would be substantially different. To the extent that project structures are briefly visible from Mountain House Road, the resulting visual contrast would be moderate. As previously described, the surrounding terrain would substantially screen the site from surr viewing locations. Therefore, the project dominance and view blockage that would be experienced by travelers on Mountain House Road and Grant Line Road would be subordinate and low (respectively) due to the very limited visibility of the project structures. The overall visual change resulting from the use of this site would be low-to-moderate. When considered within the context of the overall moderate visual sensitivity of the existing landscape and viewing characteristics, the low-to-moderate visual change that would occur at this site would cause an adverse but not significant visual impact.

Visible Plumes. The production of frequent and sizable water vapor plumes at this location would introduce prominent industrial features that would be visible from local and regional vantage points and would temporarily block views of portions of the Coast Range foothills and regional landmarks including Brushy Peak and Mount Diablo for some viewers. The number of viewers and duration of view would be low-to-moderate. Considering the relatively short duration of plumes during the day for only the coolest months of the year, and the overall viewer sensitivity, the resulting visual impact would be less than significant.

Water Resources: This site is not within the BBID service area (though it is less than one-half mile from the BBID boundary), and a source of fresh water to this site has not been identified. It is possible that the site could be served by Zone 7 (Alameda County's water district), or possibly by an extension of the BBID service area. In either case, if fresh water were initially used for power plant cooling, staff would recommend requiring that the applicant to change over to reclaimed water as such water becomes available in the project area (i.e., at Mountain House). Use of fresh water would require analysis of impacts in other issue areas, depending on the source of the water and the point of diversion (e.g., fisheries impacts would be evaluated). A reclaimed water pipeline would have to be constructed for this purpose. Also, a stream runs through this parcel, so if it could not be avoided, engineering design options to carry flow would need to be evaluated to reduce the potential for flooding. The project would have to avoid the stream altogether or otherwise obtain a streambed alteration permit from the California Department of Fish and Game, which could be difficult depending on potential stream impacts.

Noise: Ambient noise levels in the general vicinity of this site are relatively low, except along Mountain House Road, where heavy truck traffic dominates the noise environment during daytime hours. Noise emanating from the power plant to the nearest sensitive receptor would be shielded to a great extent by the intervening topography, giving it an advantage over the project site.

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BRUNS ROAD SITE

The Bruns Road Site (applicant's alternative Site 5) is located west of the proposed project site between the California Aqueduct and the Delta Mendota Canal and immediately northwest of the Tracy Pumping Station. This site is on the southern side of a small agricultural road that intersects Bruns Road at 7995 Bruns Road, which is the BBID corporation yard. The site is approximately 1,500 feet east of the BBID yard. A majority of the site is located in Alameda County and is zoned Agricultural, with the northwestern portion of the site located in Contra Costa County.

This site is an undeveloped 207-acre parcel with slightly undulating terrain and is currently open grassland. Several small hills are located on the western edge of the parcel and rise from 10 feet to 135 feet above sea level.

Two transmission lines cross the alternative site in a north to south direction. PG&E's 500-kV transmission lines cross the western border of the site and Western's 230-kV transmission line crosses the eastern border of the site. The project would interconnect to the Tracy substation either by connecting to the existing Western 230-kV line on-site or by a new 4,500-foot-long electrical transmission line. The natural gas supply would require a new 4,000-foot-long pipeline (shorter than the line required for the proposed project). The water supply line would require a 3,000-foot-long pipeline to connect to the BBID takeoff point.

The project lies in an area identified by the Contra Costa County Airport Land Use Compatibility Plan (EAEC 2001a, Section 9) as Zone B2. The closest airport is the Byron Airport, located 3 miles north of the site at 3000 Armstrong Road in Byron. The B2 zone designation requires any development to obtain an aviation approval from Contra Costa County, prohibits the aboveground storage of bulk hazardous materials, and requires an airspace review to be conducted for structures taller than 50 feet (EAEC 2001).

There is one residence approximately 0.5-mile to the southwest of this site and several trailer homes immediately south of the parcel, within a quarter mile of the southern boundary. Surrounding the site, there are vineyards immediately to the north and east. Wind farms are located on the hills to the west of the site and numerous transmission lines converge on Tracy Substation located to the southeast of the Bruns Road Site. The site would be most visible to southbound travelers on Byron-Bethany Road and Bruns Road. Views of the site from northbound Byron-Bethany Road would be partially screened by the levee of the Delta Mendota Canal. The parcel is accessed by a dirt road used for agricultural equipment that leaves Bruns Road to the east at the point where the BBID corporation yard is located.

Bruns Road Site Impact Discussion

Air Quality: This site is located in the BAAQMD and in close proximity to the proposed project, so potential impacts would be similar to those of the proposed project.

Biological Resources: This site contains a portion of annual grasslands, which could be suitable habitat for sensitive biological resources. Furthermore, the eastern

edge of the Red-Legged Frog Recovery "Core" Area borders the annual grassland (EAEC 2001a). The site's proximity to the Red-Legged Frog Recovery "Core" Area and the presence of annual grasslands on a portion of the site could result in impacts due to habitat loss and degradation if a power plant were constructed at this location. Like the proposed project, this site also contains San Joaquin kit fox habitat. A power plant at this location would likely have a greater effect on high value habitat than at the proposed project location.

Cultural Resources: To determine potential impacts of a project at this site, a background search at the regional CHRIS and a survey of both archaeological and historic resources would be necessary. At this time, staff has not identified any conditions or resources that indicate the potential for the creation of significant impacts, nor any potential advantages over the proposed project.

Hazardous Materials: The risk associated with use and transport of anhydrous ammonia and other hazardous materials at the Bruns Road Site would be similar to that of the proposed project (less than significant). However, this site has possible residences nearby, so the potential for impacts would be slightly greater than for the proposed project. Because Contra Costa County prohibits the aboveground storage of bulk hazardous materials, additional mitigation would likely be required for compliance with LORS.

Land Use and Soils: Like the proposed project site, this land is zoned Agricultural and is designated as "Unique Farmland." As with the proposed site, the project may not be consistent with the County's land use designation and zoning for the Bruns Road site. Also, the current development pattern for the area established by the ECAP, as amended by Measure D, is unclear and would need to be reviewed. Mitigation, in the form of an agricultural management plan for the preservation of agricultural land off- and potentially on-site, would likely be required. In addition, because of its proximity to Byron Airport, this site would require a review for potential impacts of stack height on navigable space, as well as a permit from Contra Costa County. However, it should be noted that the Bruns Road Site and the proposed site are similar distances to the airport, and at the proposed site, the FAA completed an aeronautical study that determined that there would be no hazard to navigation.

Transmission System Engineering: The Bruns Road site is located off Bruns Road, between a double circuit 230-kV transmission line coming into the Tracy substation and two 500-kV transmission lines. The double circuit 230-kV transmission line adjacent to the site appears to contain the two Tracy-Hurley 230-kV circuits, each rated at 319 MVA (normal and emergency). These existing circuits do not have enough capacity to handle 1,100 MW. This double circuit 230-kV line would have to be rebuilt from Tracy to Hurley to accommodate a 1,100 MW generating plant. The two 500-kV transmission lines adjacent to the site as candidates for interconnection are the two Table Mountain–Tesla 500-kV lines, each with a normal rating of 2,310 MVA and an emergency rating of 3,463 MVA. Again, either of these 500-kV transmission lines may be able to handle a 1,100 MW generating plant depending on the amount of power already dispatched on them. In summary, there may be enough transmission capacity to connect 1,100 MW at the Bruns site to the nearest existing 500-kV transmission line. It would be costly to install a 500-kV switchyard. However, this would likely be less expensive than the

required upgrade of the 230-kV Tracy-Hurley line and substation terminations. An additional significant concern is that connections to California's backbone 500 kV system by generating units can be very difficult due to concerns about system reliability.

Visual Resources: The overall visual quality of the Bruns Road site is low-to-moderate, reflecting the substantial influence of the numerous transmission lines crossing and adjacent to the site. Viewer concern is rated moderate-to-high, as travelers on Byron-Bethany Road anticipate open, panoramic views of a predominantly agricultural setting with the prominent forms of the power transmission facilities and associated industrial character. However, the addition of prominent geometric forms with significant mass that would block views of the Coast Range foothills to the west and south would be perceived as an adverse visual change. Project visibility would be moderate-to-high in the foreground of views from Byron-Bethany Road. The number of viewers would be high and the duration of view would be moderate. Overall viewer exposure would be moderate-to-high. The overall visual sensitivity of the existing landscape and viewing characteristics would be moderate.

The use of the Bruns Road Site for a power plant would result in the introduction of linear and geometric forms of industrial character. Although the linear forms and lines of the project would be similar to that of the adjacent electric transmission infrastructure and nearby wind farms, the solid geometric mass of the structures would be substantially different. The resulting visual contrast would be moderate-to-high. The project would appear co-dominant-to-dominant and view blockage would be moderate-to-high. The overall visual change resulting from the use of the site would be moderate-to-high. When considered within the context of the overall moderate visual sensitivity of the existing landscape and viewing characteristics, the moderate-to-high visual change that would occur at the Bruns Road Site would cause an adverse and significant visual impact.

Visible Plumes: The production of frequent and sizable water vapor plumes at this location would introduce prominent industrial features that would be visible from local and regional vantage points and would temporarily block views of portions of the Coast Range foothills and regional landmarks including Brushy Peak and Mount Diablo for some viewers. The number of viewers and duration of view would be low-to-moderate. Considering the relatively short duration of plumes during the day for only the coolest months of the year, and the overall viewer sensitivity, the resulting visual impact would be less than significant.

Water Resources: The water supply impacts resulting from the proposed project would also occur at this site. It is assumed that this site would use the same water as the proposed site due to its proximity to that site. Similar to the proposed project, staff would recommend requiring the use of an increasing amount of reclaimed water over time since the use of fresh water would be unacceptable after reclaimed water becomes available. A water pipeline would have to be built for this purpose.

Noise: Ambient noise levels are expected to be relatively low, in the same range as for the proposed project site. Extensive noise mitigation would be required to ensure insignificant noise impacts at the mobile home and trailers located immediately south

of the parcel. Alternatively, these units could be relocated to avoid the noise impacts. At the home southwest of the site, noise mitigation may be feasible, but will require attention to plant design, in a manner similar to the proposed project site. The potentially significant noise impact of the proposed project would also apply to this site, exacerbated by the immediate proximity of the mobile home and trailers.

LODI SITE

The Lodi Site was identified by staff, and is a 52-acre site located about 30 miles north of the proposed EAEC site, just west of Interstate 5 (I-5) and adjacent to the City of Lodi's White Slough Pollution Control Plant (WSWPCF) and the Northern California Power Authority's (NCPA) 50 MW Combustion Turbine No. 2 project. The City of Lodi currently owns approximately 1,000 acres in the area, 30 acres of which are used by the WSWPCF and 900 acres of which are leased to local farmers for agricultural uses. The WSWPCF is currently screened from views from the I-5 and other roadways to the east by a row of mature trees along the plant's eastern boundary. These trees would also provide some screening for a power plant.

The site is located off of North Thornton Road, southwest of the City of Lodi in San Joaquin County. The site is zoned Public and is currently used for agriculture; however, the City of Lodi is willing to negotiate other uses for the land (WSWPCF 2002).

The alternative power plant site would be just east of the NCPA plant and is accessible via existing paved roads. However, upgrades or reinforcement of the existing roads would likely be required to support heavy load trucks during construction. The site has very shallow groundwater and is at approximately zero feet of elevation and would thus require a significant amount of dirt fill to raise the site above the 100-year flood level (WSWPCF 2002).

The NCPA is adjacent to two high voltage transmission circuits, one a 230-kV double-circuit line owned by PG&E and a single circuit 230-kV line owned by Western. The existing natural gas pipeline that serves the NCPA facility and the WSWPCF does not have sufficient capacity to supply a 1,100 MW power plant. PG&E Line 108 is approximately three and one-half miles east of the alternative site; however, the line would likely need to be reinforced to serve a 1,100 MW power plant (PG&E 2002). Ground disturbance for construction of a natural gas transmission line to connect with Line 108 would increase the potential for impacts to archaeological and biological resources.

The WSWPCF could now supply enough undisinfected secondary-treated recycled water to meet the needs of a large power plant. Currently, during summer months, recycled water is committed to agricultural use, but plant management indicated that this commitment of water could be changed to allow a power plant to use reclaimed water year-round. Water provision terms would be defined in agreements between the City of Lodi and a power plant developer.

The nearest residential sensitive receptors would be more than a mile away, beyond the agricultural fields to the east. The regional landscape is defined by the flat landform of the San Joaquin Valley floor and is rural-agricultural in character. As a result, the site is

highly visible from both north and southbound directions of travel on I-5 and from substantial distances in all directions from the project site.

Just west of the alternative site, beyond a 20-acre parcel used for agriculture, is the White Slough Wildlife Area (WSWA). The WSWA is under the jurisdiction of the California Department of Water Resources but is managed by the California Department of Fish and Game. The WSWA land adjacent to the City of Lodi property line contains unconnected canal ponds that are frequented by recreational fishermen. In addition, the WSWPCF evaporation ponds located just east of the site are frequented by birdwatchers throughout the year because the ponds are heavily used by migratory waterfowl (WSWPCF 2002).

Lodi Site Impact Discussion

Air Quality: This site is located in the SJVAPCD, unlike the proposed site, the Mountain House Site, and the Bruns Road Site, which are all in the BAAQMD. Therefore, the Lodi Site would be subject to the mitigation requirements of the SJVAPCD. Offsets would likely be closer to the area directly affected by plant emissions. Additional construction impacts may result at this site due to the need to import large quantities of soil for a raised foundation, but these impacts would be mitigable to less than significant levels with implementation of standard mitigation.

Biological Resources: Potential impacts of construction and operation on the many species occupying the nearby WSWA would need to be evaluated. Construction or operation of a large power plant at this location may disturb the migratory waterfowl that use the water treatment ponds of the WSWPCF. Because there are trees present both east of the WSWPCF and along the slough just west of the site, predator perching opportunities already exist on both sides of the site, thereby making this site poor quality habitat for kit fox. Additional screening may be required, but because trees already are present adjacent to the site, any new trees would present only an incremental increase in perching opportunities. Due to the proximity of this site to the waterfowl areas, this alternative could result in more impacts than the proposed project.

Cultural Resources: To determine potential impacts of a project, a background search at the regional CHRIS and a survey of both archaeological and historic resources would be necessary. The total length of gas and water pipelines would be similar to the proposed project, thus the two sites would have similar ground disturbance. In addition, the Lodi Site would be located on disturbed agricultural land without waterways or structures, so the potential for significant cultural resources impacts is low.

Land Use: Although used for agriculture, this site is zoned Public and is not designated for agricultural use.

Hazardous Materials: Based on the rural location of this site and easy truck-route access to I-5, the risk associated with anhydrous ammonia and other hazardous materials would likely be less than those at the proposed site and the other alternatives.

Transmission System Engineering: It appears feasible to connect 1,100 MW to the existing 230-kV transmission system corridor at the Lodi site. However, a 230-kV switching station would have to be installed at the Lodi site to connect to all of the 230-kV lines, and there may be transmission constraints or other significant issues in dealing with PG&E, the ISO, and possibly Western in order to deliver the power into the PG&E system. A system impact study would need to be performed to confirm technical and economic feasibility.

Visual Resources: The overall visual quality of the immediate project site is low-to-moderate, reflecting the influence of nearby electric transmission infrastructure, the existence of the NCPA generation facility, the dominance of the I-5 transportation infrastructure, and the relatively non-distinct character of the surrounding agricultural lands. Viewer concern is rated moderate, as travelers on I-5 anticipate open, panoramic views of a predominantly non-distinct agricultural setting with the noticeable presence of power transmission and generation facilities. However, the addition of prominent geometric forms with significant mass that block views to the west of I-5 would be perceived as an adverse visual change. Project visibility would be high in the foreground of views from I-5. The number of viewers would be high and the duration of view would be moderate-to-extended. Overall viewer exposure would be high. The overall visual sensitivity of the existing landscape and viewing characteristics would be moderate.

The use of the Lodi Site for a power plant would result in the introduction of linear and geometric forms of industrial character. The linear forms and lines of the project would be similar to that of the adjacent electric transmission infrastructure and the solid geometric mass of the structures would be similar to the adjacent 50 MW power plant though substantially larger. However, the dominant character of the project site and region is that of rural agricultural uses. The resulting visual contrast would be moderate-to-high. The project would be the dominant form in the project vicinity and view blockage of the agricultural lands to the west of I-5 would be moderate. The overall visual change resulting from the use of this site would be moderate-to-high. When considered within the context of the overall moderate visual sensitivity of the existing landscape and viewing characteristics, the moderate-to-high visual change that would occur at this site would cause an adverse and significant visual impact. It is possible that mitigation such as additional landscaping could reduce this impact to less than significant, but this cannot be determined with certainty without more detailed study and analysis of photosimulations.

Visible Plumes: The production of frequent and sizable plumes at this location would introduce prominent industrial features that would be visible from local and regional vantage points at substantial viewing distances. Because of the number of viewers with unobstructed views of the plumes the resulting visual impact would likely be adverse and significant. However effective implementation of mitigation measures (i.e., plume abatement) could reduce the visual impact of vapor plumes at the Lodi Site to a level that would not be significant.

Water Resources: If this site were used, the project could use recycled water from the City of Lodi's WSWPCF, except during summer months when water is committed to agricultural use. However, plant management indicated that this commitment of water could be changed, allowing year-round supply to a power

plant, depending on the agreements between the City of Lodi and a power plant developer. This change could, however, result in potential impacts in other areas. Other water supplies (e.g., groundwater or SWP water) for the agricultural uses would have to be identified. Assuming that those supply issues were resolved, this site could eliminate the water supply concerns of the proposed site. However, due to the flooding potential of the site, dirt fill would need to be imported to the site.

Noise: Ambient noise levels in the vicinity are relatively high due to traffic on I-5 and the operation of the NCPA turbine installation. The nearest homes are on the opposite side of I-5, and would not be expected to experience significant noise exposure from the power plant.

PANOCHE SITE

The Panoche Site would be located adjacent to PG&E's Panoche Substation, over 100 miles southeast of the proposed site. The Panoche Site is located on the south side of Panoche Road, on the west side of Fairfax Road, and 2.5 miles east of I-5. The site sits at approximately 400 feet of elevation.

The site is located in unincorporated Fresno County. It is an approximately 30-acre flat parcel surrounded by the Panoche Substation, a small generating facility, open space and agricultural land uses. The site is disturbed and was previously used for agriculture. The closest residence is approximately 1,700 feet away from the Panoche Site.

The PG&E-owned Panoche Substation provides 230- and 115-kV service. The Panoche Substation also marks the connection point for PG&E's backbone natural gas supply pipeline Line 300. There is sufficient natural gas supply available at the site. There is a water supply pipeline in Panoche Road; however, that water supply is intended for domestic purposes. To cool a power plant at this site, an approximately 46-mile water supply pipeline could be built to bring reclaimed water from the Fresno-Clovis Waste Water Treatment Facility (WWTF). Alternatively, dry cooling technology could be used, which would minimize cooling water requirements.

Air Quality: This site is located in the SJVAPCD, unlike the proposed site, the Mountain House Site, and the Bruns Road Site, which are all in the BAAQMD. Therefore, the Panoche Site would be subject to the mitigation requirements of the SJVAPCD. Offsets would likely be closer to the area directly affected by plant emissions. Additional construction impacts may result at this site due to the need to construct a 46-mile water supply pipeline (although dry cooling could be used instead).

Biological Resources: This site is on already disturbed agricultural/industrial lands so the potential for disturbing biological resources is less than with the proposed site. Surveys would be required to evaluate the potential for direct or indirect impacts to sensitive wildlife species.

Water Resources: A long water supply pipeline would need to be built to this site from the Fresno-Clovis WWTF. Dry cooling technology could be used, however, it would require a change in the project design.

Land Use: Like the proposed site, this land is zoned for agriculture; however, a power plant at this location would be consistent with the surrounding uses (Panoche Substation and natural gas facilities). There are few nearby residences.

Visual Resources: A power plant at this location would be consistent with the surrounding industrial uses (substation, transmission lines, and natural gas pipeline facilities). It would be visible from Panoche Road and the surrounding agricultural areas. Similar to the proposed site, the area has a rural character despite the adjacent facilities, but unlike the proposed site, the area does not have the backdrop of the scenic Altamont Hills and Brushy Peak. Therefore, this area is not considered to have as high a scenic value as the proposed site. A plant at this site would not be highly visible from I-5, which is over two miles to the west.

Visible Plumes. If wet cooling were used, frequent but short duration water vapor plumes of substantial size could occur during the coolest months of the year. Such plumes at the Panoche Road site would not be expected to result in a significant visual impact due to the distance to viewers on I-5 and the few local residents in close proximity. Therefore, this site is similar to the proposed site regarding impacts from visible plumes.

Hazardous Materials: Based on the location of this site, the risk associated with use and transport of anhydrous ammonia and other hazardous materials would be similar to that of the proposed project (less than significant). However, this site has possible residences nearby, so impacts would be slightly greater than those at the proposed project.

Cultural Resources: To determine potential impacts of a project, a background search at the regional CHRIS and a survey of both archaeological and historic resources would be necessary. The total length of the water pipeline required for this site would be longer than for the proposed project; thus, the Panoche Site would result in greater ground disturbance, increasing the potential for impacts to archeological resources. The site would be located on disturbed agricultural land adjacent to industrial structures, so the potential for significant cultural resources impacts on the site itself would be low.

Transmission System Engineering: The transmission capability at Panoche can be summarized as follows: three 230-kV lines leave the substation to the north (with a total of 917 MVA normal and 1,074 MVA emergency capacity), two 230-kV lines go west (with a total of 600 MVA normal and 688 MVA emergency capacity), and four lines go south (with a total of 1,217 MVA normal and 1,418 MVA emergency capacity). A load flow study would be required to determine the power flows on the 230-kV transmission system with 1,100 MW installed at the Panoche site during normal and emergency conditions. If the power generated at the plant were delivered to northern California, it is likely that there would be enough capacity during normal conditions, if the power splits between the north and west 230-kV transmission circuits (although for a double circuit outage condition there may be some overloads). However, if the power generated were delivered to southern California, there may not be enough capacity during normal conditions. For a double circuit outage condition there likely will be overloads on the remaining two southern 230-kV circuits.

A one half mile double circuit 230-kV line from the Panoche site to the Panoche substation would be required to inject 1,100 MW into the 230-kV transmission system. In addition, the breakers at the Panoche substation would likely have to be replaced, and the breakers at the existing generation facility adjacent to the substation would likely have to be replaced. In summary, there is probably enough existing 230-kV transmission capacity to handle a large several hundred MW generating plant at the Panoche site. A more detailed power flow study would be required to determine whether the full 1,100 MW could be installed without significant system improvements.

Noise: Ambient noise levels are relatively low, and there are a few residences within a half-mile of the site. Mitigation for plant noise, similar to that recommended at the proposed site, would likely be able to reduce noise impacts to less than significant levels.

NO PROJECT (NO ACTION) ALTERNATIVE

The "no project" alternative under CEQA and the "no action" alternative under NEPA assume that the project is not constructed. In the CEQA analysis, the "no project" alternative is compared to the proposed project and determined to be either superior, equivalent, or inferior to it. The CEQA Guidelines state that "the purpose of describing and analyzing a No Project Alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project" (Cal. Code Regs., tit. §15126.6(i)). Toward that end, the "no project" analysis considers "existing conditions" and "what would be reasonably expected to occur in the foreseeable future if the project were not approved…" (§15126.6(e)(2)). Under NEPA, the "no action" alternative is used as a benchmark of existing conditions by which the public and decision makers can compare the environmental effects of the proposed action and the alternatives.

The proposed EAEC would contribute to California's generating resources, increase competition and help form a more reliable electric system that meets the goals of the deregulated energy market. If this facility were not constructed, the proposed site would remain in agricultural production, and additional power to meet both the applicant's objectives and the State's needs would not be available. Due to market forces, the proposed facility may also serve to replace older, inefficient facilities. In addition, the East Altamont Energy Center is subject to a contract between the California Department of Water Resources (DWR) and the applicant and is considered by DWR to be an important facility for California's electricity supply. If the "no project" alternative were selected, the construction and operational impacts of the EAEC would not occur. The area would remain farmland and the fresh surface water would be available for potable water uses. In addition, the rural character and setting would be preserved. However, California would not have an additional 1,100 MW of electrical generation or the benefits noted above.

ALTERNATIVES ELIMINATED FROM DETAILED ANALYSIS

This section describes alternatives that did not satisfy the screening criteria for inclusion in the analysis, and include the following:

Several alternative sites;
Conservation and demand side management; and
Renewable resources.

Each of these alternatives, and the reasons they were not considered in detail in this analysis, are described below.

SITE ALTERNATIVES ELIMINATED FROM THIS ANALYSIS

The following sections define other sites that were considered as alternatives to the EAEC project and the reasons for their elimination from consideration.

Site 1 (Grant Line Road). Site 1 is located south of the proposed site and north of Grant Line Road. The Delta Mendota Canal forms the western edge of the parcel and the intersection of Mountain House Parkway and Grant Line Road is the southeastern corner of the parcel. The site is located in Alameda County and is zoned Agricultural. The site is a 154-acre parcel of relatively flat land with rising terrain to the southeast. A portion of the site is currently used for agriculture and the rest is open space. There is an irrigation canal that bisects the parcel along with the irrigation canal that defines the western boundary of the parcel. A 230-kV transmission line, which runs north to south, is located on the western portion of the parcel. Natural gas delivery would require a 0.5-mile pipeline. To supply water, a new 4.6-mile waterline would be constructed from the BBID or another water source could be developed (EAEC 2001a).

There are approximately 20 to 30 residences along Grant Line Road directly south of this site, adjacent to the southern edge of Site 1. Toward the west, there is a wind farm on a hill, which blocks the view of this site from Mountain House Road. This site was eliminated due to its greater proximity to residential homes and its high visibility.

Site 3 (Mountain House School). Site 3 was identified by the applicant and is located south of the proposed site, approximately 1,800 feet west of the Mountain House School. Site 3 is located in Alameda County and is zoned Agricultural. The site is approximately 37 acres of flat land.

The nearest residence is located approximately 1,000 feet to the west of Site 3. In addition, there is a residence and the Mountain House School located approximately 2,000 feet to the northeast of Site 3. There is an electrical transmission line running along the east side of the parcel. Visually, there are trees surrounding Mountain House School that would partially but not completely block a power plant. The power plant, particularly the stacks, would be visible from Mountain House Road and Kelso Road.

There are several potential issues that would likely arise from situating a power plant close to a schoolhouse. The school would be considered a sensitive receptor during both construction and operation. Concerns include noise, use and transport of

hazardous materials, and visual impacts. Although the rural character of the area would make all potential sites sensitive to noise, the school would be a particularly sensitive receptor. The power plant, particularly the stacks, would be visible from Mountain House Road and Kelso Road, both of which are heavily traveled roads. Therefore, situating the power plant at Site 3 would not reduce or avoid any of the significant impacts of the proposed project.

Site 4 (Kelso Road). Site 4 is located southwest of the proposed site and consists of 158 acres. This site is on the southern side of Kelso Road, located 1,000 feet southeast of the Bethany Reservoir. The site is located in Alameda County and is zoned Agricultural. The site topography is flat on the easternmost edge, and then rises gradually to the western side of the parcel to a series of low hills. The PG&E natural gas compressor station is located due north, across Kelso Road. The PG&E natural gas pipeline runs through the parcel at an angle and Kelso Road lies along the northern edge of the site. PG&E 500-kV electrical transmission lines cross the eastern portion of the parcel.

The land is primarily used for grazing. Wind power generators are scattered in the hills to the southwest of the site and a building owned by the Byron Power Company is also located southwest of the site. The Byron Power Company is a natural gas cogeneration facility that is used to generate power and evaporate wastewater. Also, there is an abandoned wind farm between the parcel and the Byron Power Company.

The site could connect electrically to the 230-kV line approximately 1,000 feet east of the site, or to the Tracy substation via a 2,000-foot-long transmission line. The site could interconnect with the PG&E natural gas pipeline onsite and would not require any offsite infrastructure for gas supply. A 1.3-mile water supply pipeline would be required to connect to the BBID water takeoff point.

The site is within 500 feet of several residences, with the closest resident less than 250 feet to the east (EAEC 2001a, Section 9). Furthermore, the elevated terrain requires grading to level the land and the entire parcel is located at a higher elevation than the surrounding area. Therefore, the power plant would likely be visible from multiple locations, particularly from the San Joaquin Valley, Mountain House Road, Kelso Road, and Byron Bethany Road. There is a drainage channel running through the eastern portion of the parcel, which is also the lowest elevation.

This site was eliminated from detailed analysis because of its potential for significant visual resources, impacts to water resources, and proximity to residences.

Site 7 (I-580). Site 7 is a parcel of land southwest of the intersection of I-580 and Patterson Pass Road, just south of the existing gas station on the northwest corner of this intersection. However, I-580 is a heavily traveled roadway with expansive views. Therefore, visual impacts could be significant, similar to those of the proposed project. Therefore, this alternative was eliminated from further analysis.

RESULTS OF WESTERN'S REVIEW OF ALTERNATIVE SITES AND THE NO PROJECT (NO ACTION) ALTERNATIVE

For purposes of the NEPA process, Western has determined that none of the site alternatives analyzed under the Energy Commission alternatives analysis are consistent with Western's purposes and need to provide open access transmission service.

DOE's NEPA regulations require that an EA include a discussion of the no-action alternative (10 C.F.R. 1021.321(c)). Similar to the Energy Commission, Western must either accept the applicant's request for interconnection, or deny the request and choose the no action alternative.

The no action alternative provides a baseline against which the effects of the proposed action may be compared. In short, the site-specific and direct impacts associated with the power plant would not occur at this site if the project does not go forward. However, as noted earlier, if the plant is not built, demands for power in California would most likely result in the construction of a similar power plant at another location, or the possibility of more reliance on older and less efficient power plants through out the western United States. Identifying these indirect impacts of the no action alternative is speculative. However, two other energy facilities, Tesla Power Plant and Tracy Peaking Power Plant, have recently been proposed within six miles of the proposed project. The Tesla plant is currently undergoing review by the Energy Commission, and the Tracy plant was approved by the Energy Commission in July 2002. The fact that these two facilities have been proposed nearby helps to demonstrate the interest in and need for power plant construction. These two plants are not requesting interconnection with Western's transmission system.

Potential site-specific impacts of the EAEC are summarized in the "Potential Significant Environmental Impacts" section of this chapter. Note that Energy Commission staff has made the determination of potential significance. The Energy Commission and Western will make their own independent determinations of significance. The specific impacts described in the referenced section and through out this document would be avoided by the no action alternative, but similar impacts would occur elsewhere because of the need for a power plant.

CONSERVATION AND DEMAND SIDE MANAGEMENT

One alternative to a power generation project could consist of a program or programs to reduce energy consumption; the Warren-Alquist Act specifically prohibits the Energy Commission from considering conservation programs as alternatives to a proposed generation project (Pub. Resources Code, Section 25305(c)). This is because the approximate effect of such programs is already accounted for in the agency's "integrated assessment of need," and efficiency or conservation programs would not in themselves be sufficient to substitute for the additional generation calculated to be needed.

In spite of the state's success in reducing demand in 2001, California continues to grow and overall demand is increasing. The 2002-2012 Electricity Outlook Report (CEC

2002a) concludes that, despite exceptional conservation efforts in 2001, voluntary demand reduction will likely decrease over time.

While conservation and demand reduction programs are not considered as alternatives to a proposed project, the Energy Commission is responsible for several such programs, most notably the energy efficiency standards for new buildings and for major appliances. These programs are typically called “energy efficiency,” “conservation,” or “demand side management” programs. One goal of these programs is to reduce overall electricity use; some programs also aim to shift such energy use to off-peak periods.

The Energy Commission’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The Energy Commission adopted new standards in 2001, as mandated by Assembly Bill 970 to reduce California’s electricity demand. The new standards went into effect on June 1, 2001. Since 1975, the displaced peak demand from these conservation efforts has amounted to roughly the equivalent of eighteen 500 MW power plants. The annual impact of building and appliance standards has increased steadily, from 600 MW in 1980 to 5,400 MW in 2000, as more buildings and homes are built under increasingly efficient standards (CEC 2002a).

After the California Independent System Operator (Cal-ISO) ordered rolling blackouts in January 2001 as a result of statewide electricity shortages, conservation efforts initially resulted in dramatic reductions in electricity use. Electricity use for each month in 2001 ranged from 5 percent to 12 percent less than it was in 2000. However, in 2002 demand has been increasing as the memories of rolling blackouts fade.

The California Public Utilities Commission supervises various demand side management programs administered by the regulated utilities, and many municipal electric utilities have their own demand side management programs. The combination of these programs constitutes the most ambitious overall approach to reducing electricity demand administered by any state in the nation.

The Energy Commission is also responsible for determining what the state’s energy needs are in the future, using five and 12 year forecasts of both energy supply and demand. The Energy Commission calculates the energy use reduction measures discussed above into these forecasts when determining what future electricity needs are, and how much additional generation will be necessary to satisfy the state’s needs.

Having considered all of the demand side management that is “reasonably expected to occur” in its forecasts, the Energy Commission then determines how much electricity is needed. The most recent estimation of electricity needs is found in the 2002-2012 Electricity Outlook Report (available on the Energy Commission’s website).

RENEWABLE RESOURCES

Reliance solely on natural gas fired power plants creates both environmental impacts and a dependence on a single energy source. Therefore, renewable resources are attractive power sources.

Staff examined the principal renewable electricity generation technologies that could serve as alternatives to the proposed project and do not burn fossil fuels, and the potential for these facilities to be used instead of the proposed gas-fired plant. These technologies are geothermal, solar, hydroelectric, wind, and biomass. Each of these technologies could be attractive from an environmental perspective because of the absence or reduced level of air pollutant emissions. However, these technologies also can cause environmental impacts and have feasibility problems.

Geothermal. Geothermal technologies use steam or high-temperature water (HTW) obtained from naturally occurring geothermal reservoirs to drive steam turbine/generators. The technology relies on either a vapor dominated resource (dry, super-heated steam) or a liquid-dominated resource to extract energy from the HTW. Geothermal is a commercially available technology, but it is limited to areas where geologic conditions result in high subsurface temperatures. There are no geothermal resources in the project vicinity, making this technology an infeasible alternative.

Biomass. Biomass generation uses a waste vegetation fuel source such as wood chips (the preferred source) or agricultural waste. The fuel is burned to generate steam. Biomass facilities generate substantially greater quantities of air pollutant emissions than natural gas burning facilities, though these emissions may be partially offset by the reduction in emissions from open-field burning of these fields. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity of the 1,100 MW EAEC project. In order to generate 1,100 MW, which is proposed for the EAEC, fifty-five 20 MW biomass facilities would be required. However, these power plants would have potentially significant environmental impacts of their own.

Solar. Currently, there are two types of solar generation available: solar thermal power and photovoltaic (PV) power generation.

Solar thermal power generation uses high temperature solar collectors to convert the sun's radiation into heat energy, which is then used to run steam power systems. Solar thermal is suitable for distributed or centralized generation, but requires far more land than conventional natural gas power plants. Solar parabolic trough systems, for instance, use approximately five acres to generate one megawatt.

Photovoltaic (PV) power generation uses special semiconductor panels to directly convert sunlight into electricity. Arrays built from the panels can be mounted on the ground or on buildings, where they can also serve as roofing material. Unless PV systems are constructed as integral parts of buildings, the most efficient PV systems require about four acres of ground area per megawatt of generation.

Solar resources would require large land areas in order to meet the project objective to generate 1,100 MW of electricity. For example, assuming that a parabolic trough

system was located in a maximum solar exposure area, such as in a desert region, generation of 1,100 MW would require 5,500 acres. For a PV plant, generation of 1,100 MW would require 4,400 acres.

While solar generation facilities do not generate problematic air emissions and have relatively low water requirements, there are other potential impacts associated with their use. Construction of solar thermal plants can lead to habitat destruction and visual impacts. PV systems can also have negative visual impacts, especially if ground-mounted. Furthermore, PV installations are highly capital intensive, and manufacturing of the panels generates some hazardous wastes.

Both solar thermal and PV facilities generate power during peak usage periods since they collect the sun's radiation during daylight hours. However, even though the use of solar technology may be appropriate for some peaker plants, solar energy technologies cannot provide full-time availability due to the natural intermittent availability of solar resources. Therefore, solar generation technology would not meet the project's goal, which is to provide immediate power to meet peaks in demand.

Wind. Wind carries kinetic energy that can be utilized to spin the blades of a wind turbine rotor and an electrical generator, which then feeds alternating current (AC) into the utility grid. Most state-of-the-art wind turbines operating today convert 35 to 40 percent of the wind's kinetic energy into electricity. Modern wind turbines represent viable alternatives to large bulk power fossil power plants as well as small-scale distributed systems. The range of capacity for an individual wind turbine today ranges from 400 watts up to 3.6 MW. California's 1,700 MW of wind power represents 1.5 percent of the state's electrical capacity.

Although air emissions are significantly reduced or eliminated for wind facilities, they can have significant visual effects. Also, wind turbines can cause bird mortality (especially for raptors) resulting from collision with rotating blades.

Wind resources would require large land areas in order to generate 1,100 MW of electricity. Depending on the size of the wind turbines, wind generation "farms" generally require between five and 17 acres to generate one megawatt (resulting in the need for between 5,500 and 18,700 acres to generate 1,100 MW) (CEC 2001c). Although 7,000 MW of new power wind capacity could cost-effectively be added to California's power supply, the lack of available transmission access is an important barrier to wind power development (Beck 2001). California has a diversity of existing and potential wind resource regions that are near load centers such as San Francisco, Los Angeles, San Diego and Sacramento (CEC 2001d). However, wind energy technologies cannot provide full-time availability due to the natural intermittent availability of wind resources. Therefore, wind generation technology would not meet the project's goal, which is to provide immediate power to meet peaks in demand.

Hydroelectric Power. While hydropower does not require burning fossil fuels and may be available, this power source can cause significant environmental impacts primarily due to the inundation of many acres of potentially valuable habitat and the interference with fish movements during their life cycles. As a result of these impacts, it is extremely

unlikely that new hydropower facilities could be developed and permitted in California within the next several years.

Conclusion Regarding Renewable Resources. The renewable technologies discussed above have the advantage of not requiring the burning of fossil fuels and avoiding the environmental and resource impacts associated with natural gas-fired power. However, these technologies also have the potential to cause significant land use, biological, cultural resource, and visual impacts, and they have substantial cost and regulatory hurdles to overcome before they can provide substantial amounts of power. In summary, staff has eliminated these alternatives because (a) they cannot feasibly meet project objectives, and (b) they have the potential to create potentially significant environmental effects of their own. Furthermore, renewable resources are not consistent with Western's purposes and need to provide non-discriminatory open transmission access.

CONCLUSIONS

As determined by Energy Commission staff, this project as proposed would cause potential impacts in air quality, land use, biology, cultural resources, visual resources, soil and water resources, and noise. For all areas except visual resources, staff is recommending measures to mitigate impacts to less than significant. Following is a summary of the advantages and disadvantages of the four alternative sites and the no project alternative compared to the proposed project.

Mountain House Site. This site would have similar impacts to the proposed site in the issue areas of air quality, hazardous materials, transmission system engineering, and water and soil resources. It would potentially have fewer impacts than the proposed project in the areas of visual resources and noise, but could have greater impacts in cultural resources because of potential impacts associated with historic structures. As with the proposed site, the project may not be consistent with land use and zoning. There are also potential significant impacts to biological resources because the project would be closer than the proposed site to the California red-legged frog "Core" Recovery Area, wetlands, and vernal pools.

Bruns Road Site. This site would have similar impacts to the proposed project in the disciplines of cultural resources, hazardous materials, water and soil, transmission system engineering, and noise. Like the proposed project, the use of fresh water would be unacceptable so a plant at this site would also be required to use reclaimed water when it became available. It would potentially have fewer impacts in land use because it would be farther from the school on Mountain House Road. However, there would be potentially significant visual impacts because the structures would contrast with the surrounding area and be visible from area roads. Construction impacts on air quality would be less than for the proposed site because the water and gas pipelines would be shorter. It could have potentially significant biological impacts because it would be located in San Joaquin kit fox habitat as well as nearby to the California red-legged frog "Core" Recovery Area.

Lodi Site. This site would have similar impacts to the proposed project in the issue area of hazardous materials. Based on past and present land use and linear requirements, this site is similar to the proposed project for cultural resources. This site would potentially have fewer impacts than the proposed project for air quality, water and soil, and noise and has the least potential for impacts. However, there would be potentially significant impacts to visual resources. In addition, a transmission study would be required to evaluate impacts on the regional transmission system and a biological assessment would be necessary to evaluate potentially significant impacts to species in the WSWA and the WSWPCF ponds.

Panoche Site. This site would have similar impacts to the proposed project in the issue area of hazardous materials. It would potentially have fewer impacts than the proposed project in terms of land use, because although it is zoned agricultural, the plant would be located in an area with existing industrial development. The site would also have potentially less impacts than the proposed site for biological resources, noise, and visual resources. While the potential impacts are less than at the proposed site for air quality (because it would be located in the SJVAPCD), the construction impacts on air quality based on the length of the required water pipeline would be greater than for the proposed project unless dry cooling were used. The length of the required pipeline would result in this site having greater potential impacts than the proposed project in terms of water and soil resources and cultural resources. Transmission would likely be feasible from this site and the adjacent substation, but a power flow study would be necessary.

No Project. While the impacts of the proposed project would not occur with the no project alternative, the benefits of the project would also be eliminated. These benefits include the potential for elimination of older, less efficient power plants. In addition, the no project alternative would not meet the contractual requirements with the DWR to provide electricity to the State of California.

SUMMARY

The Staff Assessment currently finds a potential unmitigable significant adverse impact of the proposed project in visual resources. This impact could best be reduced at the Mountain House or Panoche Sites. However, each of the alternative sites has the potential to create other impacts, especially in biological, and cultural resources, and these issues would require more detailed study. The Lodi Site seems to offer the best potential for minimizing impacts in most disciplines and it has reclaimed water available for cooling (although the provision of that water during summer months would have to be negotiated), but it would have visual impacts similar to those of the proposed project. The Panoche Site is slightly better than the Lodi Site because of the reduced visual impacts and lack of nearby waterfowl habitat, but there is no water available, so it would require use of dry cooling or construction of a 46-mile reclaimed water pipeline, which could result in other potential impacts. Overall, the four site alternatives considered in this section offer some advantages and disadvantages in comparison to the proposed project. However, none of the alternative sites appear to reduce the potentially significant adverse impacts of the project without causing additional potentially significant impacts themselves. Also, use of any alternative site would be inconsistent

with the objective of being online in 2005, and satisfying the applicant's contractual requirements with the DWR.

For purposes of the NEPA process, Western has determined that none of the siting alternatives analyzed under the staff alternatives analysis are consistent with Western's purposes and need to provide non-discriminatory open transmission line access.

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